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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/517,670 | 04/13/2005 | Kohichiro Kawate | 58028US006 | 1922 |
| 32692 7590 04/30/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427 | | | EXAMINER SELLERS, ROBERT E | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1712 | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | NOTIFICATION DATE | DELIVERY MODE | |
| 3 MONTHS | | 04/30/2007 | ELECTRONIC | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/30/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/517,670

Applicant(s)

KAWATE ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 2-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>31 May 2005</u> | 6) <input type="checkbox"/> Other: _____ |

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1. The application has been transferred based on the election of Group I in the response filed April 12, 2007. The following election of species is required:
2. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are either the melamine/isocyanuric acid adduct or the organic compounds having a glass transition temperature (T_g) of at least 110°C, wherein if the organic compound is elected, a particular species is identified from page 9, lines 19-21 of the specification.

Claims 1-8 are generic.

3. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical feature for the reasons espoused in the requirement for restriction mailed March 6, 2007 on page 2 in the single-spaced paragraph.

During a telephone conversation with John A. Burtis on April 22, 2007, a provisional election was made without traverse to prosecute the species of MC-600, a melamine isocyanuric acid adduct utilized in Table I on page 29 of the specification, claim 1. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2-8 are withdrawn from further consideration under 37 CFR 1.142(b) as being drawn to non-elected inventions.

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The election with traverse of Group I in the reply filed on April 12, 2007 is acknowledged. The traversal is on the ground that there is no assertion or allegation that the claims related to independently patentable subject matter or patentably distinct inventive embodiments. This is not found persuasive because the basis for a restriction requirement for an application filed under 37 CFR 1.371 is PCT Rule 13.1 as explained in MPEP § 1850, I. The Requirement for "Unity of Invention." The special technical feature of the caprolactone-modified epoxy resin and a melamine/isocyanuric acid adduct or organic compound having a Tg of at least 110°C and its failure to make a contribution over the prior art of Japanese Patent No. 2002-146319 is a proper basis for establishing the lack of a single general inventive concept between the groups.

The requirement is still deemed proper and is therefore made FINAL.

4. A certified copy of Japanese priority application no. 2002-267115 filed September 12, 2002 has not been received.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Watanabe et al. Patent No. 4,521,570 or Japanese Patent Nos. 63-99261 (Japanese '261) or 7-62216 (Japanese '216) or 2002-146319 (Japanese '319) or 61-115976 (Japanese '976).

5. Watanabe et al. (col. 4, lines 9-15) reports a lactone-modified epoxy resin combined with a polyester (col. 9, lines 63-65).

6. Japanese '261 (abstracts) espouses a caprolactone-modified epoxy resin and a polycarbonate.

7. Japanese '216 is directed to an epoxy resin with polycaprolactone branches (Derwent abstract) of formula II (Patent Abstracts of Japan blended with a polycarbonate and a polyamide.

8. Japanese '319 is drawn to an adhesive prepared from a caprolactone-modified epoxy resin mixed with a phenoxy resin having a weight average molecular weight of from 2000 to 2,000,000 (translation, page 3, paragraph 31).

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9. Japanese '976 describes an adhesive composition comprising thermoplastic elastomers having weight average molecular weights of from 20,000 to 500,000 (Patent Abstracts of Japan) and an epoxy resin such as a caprolactone-modified epoxy resin (CAPLUS abstract, last IT, wherein registry no. 84740-39-6 is the Placel G402 used in Examples 1-6 on page 28, line 28 of the instant specification).
10. Although the claimed Tg of at least 110°C for the organic compound is not recited, the polyester of Watanabe et al., polycarbonate of Japanese '261 and '216, phenoxy resin of Japanese '319 and thermoplastic elastomers of Japanese '376 inherently possess Tg's of higher than the low claimed minimum, especially considering the inclusion of thermoplastic resins as such organic compounds on page 9, lines 16-21 of the instant specification.
11. The burden shifts to applicants to distinguish the claimed thermoplastic resins over the claimed organic compounds as required in In re Fitzgerald, 205 USPQ 594, CCPA 1980 and MPEP §§ 2112-2112.02. More favorable consideration would be given with respect to this rejection if the tack reducing component is limited solely to the melamine/isocyanuric acid adduct.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over PCT Publication No. WO 02/23273 in view of Watanabe et al. Patent No. 4,521,570 and Japanese Patent No. 57-164116 (Japanese '116).

12. The PCT publication (page 5) discloses a photosensitive coating film exhibiting adhesiveness (page 5, lines 2-5) comprising (A) a carboxyl group-containing urethane (meth)acrylate, (C) a thermosetting resin such as an ϵ -caprolactone modified epoxy resin (page 20, second paragraph, lines 11-12), (D) a photopolymerization initiator, (E) a thermopolymerization catalyst such as a melamine cyanurate compound (page 25, last paragraph), (B) an ethylenically unsaturated compound and (F) a carboxyl group-containing epoxy (meth)acrylate. The claims do not preclude components (A), (B), (D) and (F).

The claimed caprolactone-modified epoxy resin is disclosed but not exemplified.

13. Watanabe et al. (col. 4, lines 10-15 and 32-51) teaches higher flexibility, greater curability due to the presence of primary hydroxyl groups and superior heat resistance, water resistance, low-temperature properties and miscibility attributable to a lactone-modified epoxy resin.

14. Japanese '116 (abstracts) sets forth an ϵ -caprolactone modified epoxy resin imparting excellent flexibility and reactivity with a crosslinking agent.

15. It would have been obvious to employ the ϵ -caprolactone modified epoxy resin disclosed in the PCT publication as the thermosetting resin in order to provide higher flexibility, greater curability and superior heat resistance, water resistance, low-temperature properties and miscibility.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Nos. 2000-25155 (Japanese '155), 2000-226438 (Japanese '438) and the Cailiao Baohu article by Zhou et al. in view of Watanabe et al. and Japanese '116.

16. Japanese '155 and '438 and Zhou et al. set forth formulations containing epoxy resins and melamine cyanurate. The claimed caprolactone-modified epoxy resin is not recited. Watanabe et al. and Japanese '116 are discussed in previous paragraphs 13 and 14.

17. It would have been obvious to employ the caprolactone modified epoxy resin of Watanabe et al. and Japanese '116 as the epoxy resin of Japanese '155 and '438 and Zhou et al. in order to provide higher flexibility, greater curability and superior heat resistance, water resistance, low-temperature properties and miscibility.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al., Japanese '116 and Japanese Patent No. 60-186524 (Japanese '524) in view of Japanese '155 and '438 and Zhou et al.

18. Watanabe et al. and Japanese '116 and '524 pertain to compositions obtained from ϵ -caprolactone modified epoxy resins. The claimed melamine-isocyanuric acid adduct is not recited. Japanese '155 (Patent Abstracts of Japan) and '438 (translation, page 3, paragraph 33) teaches the use of melamine cyanurate as a fire retardant in epoxy resin compositions. Zhou et al. designates melamine cyanurate as a lubricating aid in an epoxy resin formulation.

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19. It would have been obvious to incorporate the melamine cyanurate of Japanese '155 and '438 and Zhou et al. into the compositions of Watanabe et al. and Japanese '155 and '438 in order to impart flame retardancy and lubrication thereto.

20. According to Chemical abstracts registry no. 37640-57-6, the melamine cyanurate of Japanese '155 and '438 is the same as the claimed melamine-isocyanuric acid adduct.

21. The claimed adhesive alludes to the ultimate intended utility of the composition and is not a critical limitation. Even if, arguendo, the descriptor is given weight, the various utilities for the compositions of the applied prior art exhibit adhesiveness (e.g. a coating or laminate adheres to the substrate to which it is applied) or is inherently adhesive based on the presence of equivalent components to those claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



Robert Sellers
Primary Examiner
Art Unit 1712